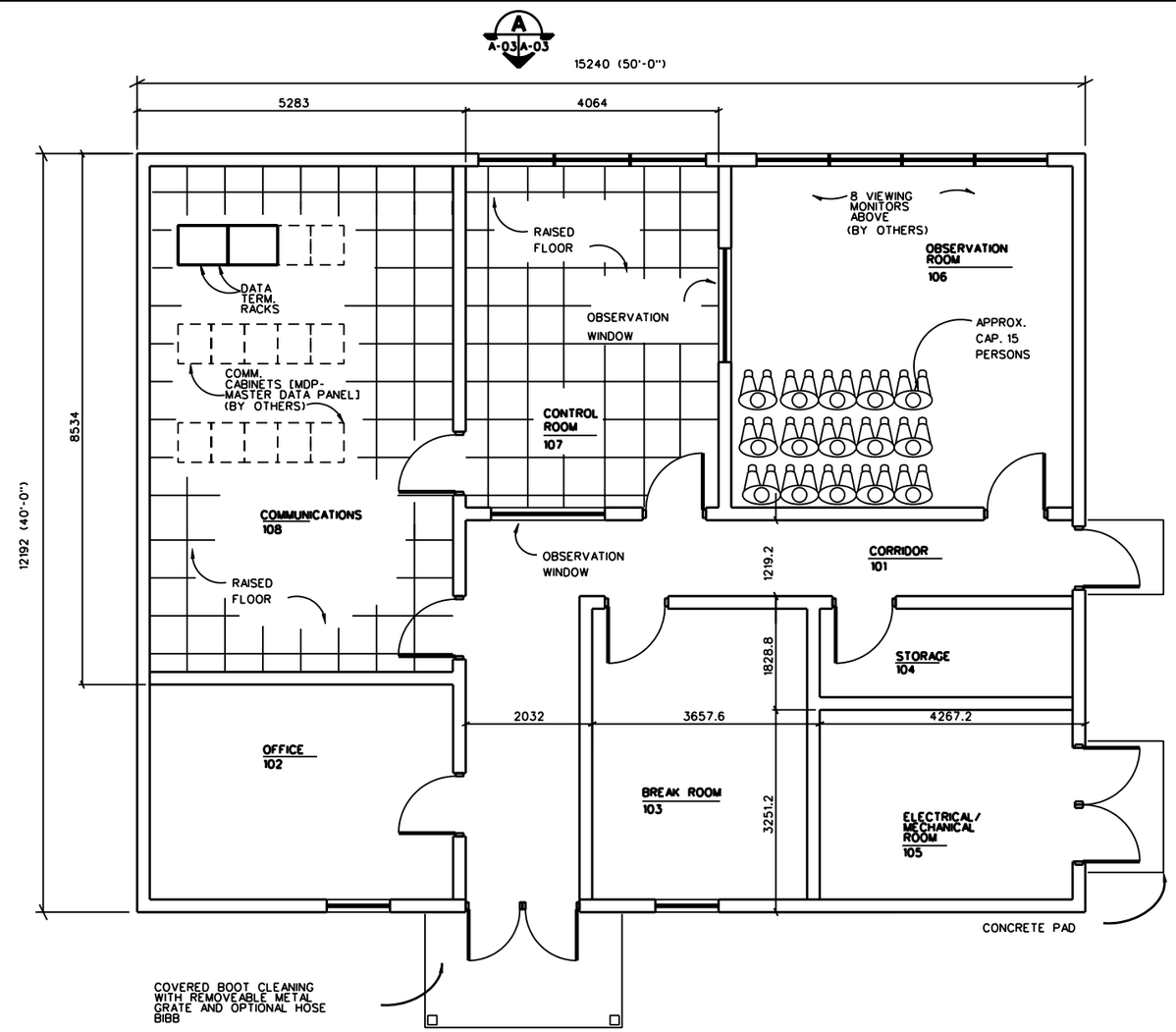
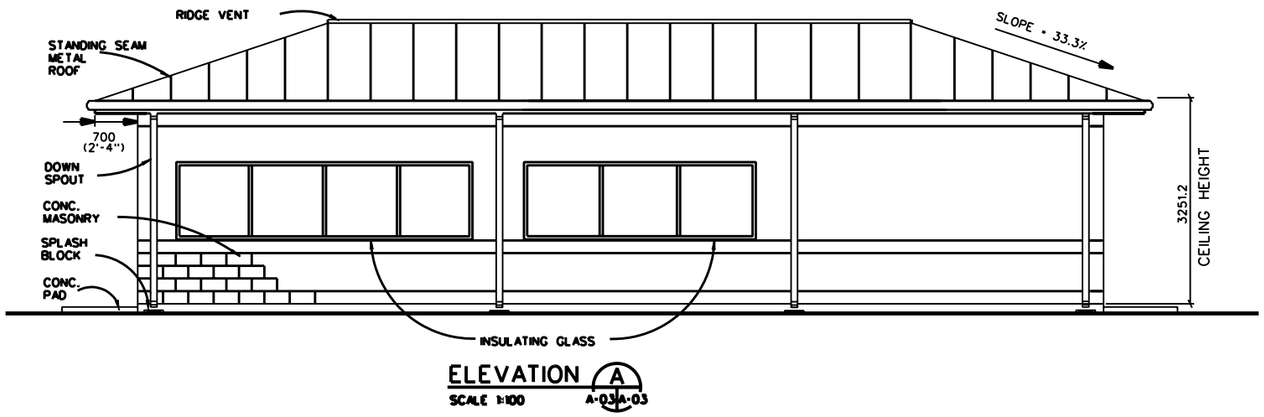


LARGE ROC - FLOOR PLAN

SCALE 1:100



ELEVATION A

SCALE 1:100 A-03/A-03

GENERAL

The Large Range Operations Center (ROC) provides office space for personnel conducting training exercises. Space is also provided for the installation of the required electronics, communications and mechanical equipment. An observation room is provided to view down range exercises. The occupant load factor is 9.3 net sq. meters (100 sq. feet) (per person) based on a business use. See NFPA 101 table 7.3.1.2. All dimensions not labeled are in millimeters.

SITE ADAPTATION

This standard definitive design should be adapted to local conditions such as climate, available construction materials and techniques, topography, seismic zone and the existing character of surrounding buildings. These factors may affect plans, elevations and building systems. The building foundation must be designed based on the results of a geotechnical investigation.

REFERENCE CRITERIA

The design and construction must comply with applicable codes and standards including: technical instruction TI 800-01, "Design Criteria"; Department of the Army regulations, technical manuals, handbooks, standards, and specifications.

FUNCTIONAL REQUIREMENTS

All dimensions not labeled are in millimeters. Floors should be vinyl composition tile with vinyl base in all areas except the floor in the electrical/mechanical room should be sealed concrete. Acoustical tile ceilings are used through out the facility expect the ceiling in the mechanical/electrical room should be left exposed to the structure above. Windows are fixed to meet functional requirements providing natural lighting and viewing. Windows have forced entry resistant metal frames and polycarbonate security glazing. Floors should be sealed concrete or vinyl tile for ease of cleaning, with acoustical drop ceilings.
Gutters, downspouts and splash blocks should be provided where required by climatic conditions. Covered entries and ice guards may be necessary in northern climates. The Large ROCA is accessed only by able-bodied personnel and does not require ADA compliance unless dictated by local criteria.

MECHANICAL

The Mechanical Equipment shall be selected and sized based on site requirements, local weather design criteria, available energy sources, and building construction materials. The mechanical system must maintain an equipment operating temperature of 16 C to 27 C (60 F to 80 F) in the Communication and Control Rooms. Obtain communication equipment heat release from targetry supplier for HVAC load calculations and equipment sizing. HVAC design for personnel comfort shall be in accordance with UFC 3-410-01FA. U-Factor requirements are based on the local climatic conditions in accordance with TI 800-1. Install appropriate heating and air conditioning equipment in the mechanical room with fans, ductwork, and controls. Route ductwork to provide an even distribution of conditioned air throughout the building to meet occupant comfort and outdoor air requirements.
Provide diffusers and dampers to allow for manual balancing

ELECTRICAL/COMMUNICATIONS

The Large ROC requires 120V from a 1 phase or 3 phase source. Rigid Steel conduit shall extend a minimum of 1524mm (5') outside of the building foundation for power and communication circuits entering and leaving the building. Voltage drop shall comply with standards in NEC and Army technical manuals. Grounding will be installed in accordance with NFPA 70, the NEC, and other applicable standards.
The panelboards shall be recess mounted in finished areas. Receptacles shall be general purpose, 120V, 20A Duplex mounted 450mm (18") above the finished floor. All outlets, receptacles, and conduit shall be recess mounted in finished areas. Provide a 120V, 20A quad receptacle beneath raised floor under each required termination rack and MDP. Coordinate number of MDPs with target provider. Provide 120V, 20A duplex receptacle mounted to ceiling in a convenient location for each viewing monitor in room 106.
Provide efficient power for the HVAC unit.
Illumination levels will be designed in accordance with IES. Interior lighting shall consist of fluorescent lamps at a level of 50 foot-candles. Incandescent fixtures with red lamps on separate switching shall be placed near each fluorescent lamp in the Observation Room, the Control Room, and on exterior walls of entrances. Exterior lighting shall be provided with separate switching located near points of egress.
The emergency electrical system shall comply with NFPA 70 and NFPA 101. Exit signs will be provided in accordance with NFPA 101. Emergency lighting shall be provided to ensure adequate illumination to egress building in the event of a power outage.
Lightning protection in accordance with NFPA 780 and UFC 3-570-01 is required for this building in the form of pole mast protection or air terminals on the building.

TELEPHONE

Telephone service is not a requirement for range operations. However, service should be provided to the ROC if it is available in the area.

TARGETRY SYSTEM INTERFACE

In addition to the targetry fiber, the targetry system requires a fiber optic connection between the ROC and the AAR if one is included. A fiber optic connection may also be required between the ROC and the Operations Storage Building for target maintenance. The size of the Fiber Termination Rack depends on the type of range and the number of targets. Coordinate with the Targetry Supplier.

FIRE PROTECTION

Fire Protection is not required per fire codes for this building. Consult local Fire Marshall for compliance with local laws.

EQUIPMENT PROVIDED BY TARGET SUPPLIER

UPS location and size has not been verified.
Electrical loads in the Communications room has not been verified.
HVAC size for the Communication Room has not been verified.

GRAPHIC SCALES

1:100 1000 500 0 1000 2000

US Army Corps of Engineers

Rev. | Description | Date | Approved

Designed by: | Date: | Rev.
Drawn by: | Cad by: | Design file no. | Drawing code:
Reviewed by: | File name: | Plot scale: | Plot code:
Submitted by:

U. S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE HUNTSVILLE, ALABAMA

15 APR, 2005

RANGE AND TRAINING LAND PROGRAM
STANDARD DESIGN MANUAL
RANGE OPERATIONS CENTER (ROC)
LARGE

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